

## REMARKS

Reconsideration and the timely allowance of the pending claims, in view of the following remarks, are respectfully requested.

In the outstanding Office Action, the Examiner rejected claims 11, 13, 14, and 30, under 35 U.S.C. §112, ¶1, as allegedly failing to comply with the written description; rejected claims 11, 13, 14, and 30, under 35 U.S.C. §112, ¶2, as allegedly being indefinite; and rejected claims 11, 13, 14, and 30, under 35 U.S.C. §102(b), as allegedly being anticipated by Paillaman '905 (U.S. Pub. No. 2002/0080905 A1).

As a preliminary matter, given the prosecution history and the Examiner's repeated assertions despite factual evidence to the contrary, Applicants respectfully request supervisory review of this response.

By this Amendment, the Specification and claims 11, 13-14, and 30 have been amended for form and clarity and new claim 32 has been added. Applicants submit that no new matter has been introduced. As such, claims 11, 13-14, and 30 are currently presented for examination, of which claim 11 is the sole independent claim.

Insofar as the §102, §112, ¶1 and §112, ¶2 rejections are still deemed to be relevant given the claim changes, Applicants traverse these rejections as follows:

### I. Rejections Under §112, ¶1 & §112, ¶2.

In the pending Office Action, the Examiner, once again, alleged failure to comply with the written description requirement and failure to distinctly claim the subject matter of the invention and has also relied on intended use arguments to further his rejections. Applicants strenuously disagree.

Claim 1, as amended, is directed to an apparatus for performing *an operation inside a vessel of a nuclear reactor* that includes a jet pump with an inlet mixer, a nozzle, and a side opening with a tapered surface, the side opening being positioned between the inlet mixer and the nozzle. In support, the Originally-Filed Specification is replete with descriptions indicating

that the apparatus has to be *inserted into the interior of the reactor jet pump*, so that it can perform its intended operation.

To summarize, the disclosed embodiments provide that apparatus body 1 is made of a tubular member 1a having a plurality of holes 1b. A pump may communicate with the holes 1b via a hose 4 to perform the intended operation of sucking in and purifying water OR a camera, eddy current probe, or array type ultrasonic probe may be coupled to the holes 1b to perform the intended operation of inspecting. (See, e.g., Specification: par. [0020], [0027], [0029], [0031]; FIG. 2).

The embodiments further provide that apparatus body 1, suspended by wire rope 2, is lowered to the vicinity of a side opening of a jet pump 10 provided in the interior of the reactor that extends along a vertical direction. *Guide rod 5, which is attached to the lower portion of apparatus body 1*, is first inserted gradually into the inlet mixer 11 along a tapered surface of the side opening. Then, when body 1 is further suspended and lowered, body 1 is drawn due to the gravitational force of weight 6 of guide 3 which has already entered the interior of jet pump 10, as body 1 follows guide 3. (See, e.g., Specification: par. [0023]-[0024]; FIGs. 1, 2).

The Drawings also clearly illustrate that the plurality of holes 1b on tubular member 1a are not disposed on the end portion of the apparatus body 1 – rather, they are positioned higher up. (See, e.g., Specification: FIGs. 1-2). Artisans or ordinary skill will clearly understand that apparatus body 1 has to be substantially inserted into the interior of the reactor jet pump, so that the plurality of holes 1b can facilitate the intended operation. In other words, it is not sufficient to merely insert the tip of the apparatus body 1.

As if this were not enough, the Originally-Filed Specification states that “[i]n this manner, body 1 is inserted into the interior of jet pump 10 *substantially* without varying the posture or the angle of operation apparatus 100 as a whole.” (See, e.g., Specification: par. [0024]). The Examiner misconstrues this statement by asserting that the term “substantially” is an adverb modifying the phrase “without varying the posture or the angle of operation apparatus 100 as a whole” – as opposed to the intended modification of the term “inserted” - and thereby asserted that the introduction of the claim limitation “substantially” constitutes new matter.

Applicants respectfully point out that, on its face, the phrase “*substantially* without varying the posture or the angle of operation apparatus 100 as a whole” does not make any sense either literally or technically. Moreover, given the context and weight of disclosure noted above, the intended meaning should be apparent to any artisan of ordinary skill. However, in an effort to expedite the examination of the present application and avoid any confusion, Applicants have amended the Specification so that the cited portions reads “[i]n this manner, body 1 is inserted into the interior of jet pump 10 substantially, without varying the posture or the angle of operation apparatus 100 as a whole.”

Applicants further submit that, in this specific context, the claim term “substantially” is not broadening – rather, quite the opposite. Without it, the claimed “insertion into the jet pump” would read on everything from totally submerging the member to merely inserting the tip of the member. Specifically, the claim language reads, in part, “an apparatus body having an *elongated tubular member sized to be suspended and substantially inserted into the jet pump*” and “after the guide rod is inserted into the side opening, the apparatus body is lowered *so that both, the apparatus body and guide rod are substantially inserted into the jet pump* to enable the tool to perform the operation.” As such, the claim language provides the necessary structure to clearly distinguish from the asserted references which disclose that only an end portion or tip of the apparatus or frame body is inserted.

Given such evidence, Applicants submit that the claims are entirely supported, amply described, and clear on their face. As such, the claims comply with both, the written description and definiteness requirements. Accordingly, the immediate withdrawal of the rejections under §112, ¶1 and §112, ¶2 is respectfully requested.

## II. Rejections Under §102.

As indicated above, claim 11 is directed to an apparatus for executing an operation inside a vessel of a nuclear reactor and positively recites, *inter alia*, *a guide rod, attached to an end portion of the apparatus body, having an incline at a predetermined angle relative to a vertical axis of the apparatus body, the inclined guide rod being structured to facilitate entry of the guide rod into the tapered surface of the jet pump side opening*, wherein, after the guide rod is

inserted into the side opening, *the apparatus body is lowered so that both, the apparatus body and guide rod are substantially inserted into the jet pump* to enable the tool to perform the operation.

As discussed at length above, these features are amply supported by the disclosed embodiments of the written description and they are consistent with the elected species of Figs. 1, 2. For example, the disclosed embodiments provide that apparatus body 1, suspended by wire rope 2, is lowered to the vicinity of a side opening of a jet pump 10 provided in the interior of the reactor. Guide rod 5, which is attached to the lower portion of apparatus body 1 and used to guide body 1 into the interior, is first inserted gradually into the inlet mixer 11 along a tapered surface of the side opening. Then, when body 1 is further suspended and lowered, body 1 is drawn due to the gravitational force of weight 6 and guide rod 5 (*e.g.*, both comprising guide 3 in FIG. 1) which has already entered the interior of jet pump 10, as body 1 follows guide 3. The body 1 is substantially inserted into the interior of jet pump 10, without varying the posture or the angle of operation apparatus 100 as a whole (*See, e.g.*, Specification: par. [0023]-[0024]; FIGs. 1, 2).

Applicants submit that the asserted reference clearly fails to suggest each and every element of claim 11, including the features noted above. First, the Examiner asserted that two totally different structures of the Paillaman '905 reference, probe arms 136 and insertion subassembly 144 correspond to the claimed “guide rod”. (*See*, Office Action: page 4). This is the first clear error.

With regard to probe arms, Paillaman '905 discloses that probe arms 136 are pivotably movable between a first (“closed”) position where probe arms 136 are parallel to the longitudinal axis of probe subassembly 130, and a second (“open”) position where probe arms 136 are at an angle to the longitudinal axis of probe subassembly 130. When probe arms 136 are in the “open” position, sensors 140, which are attached to the end of probe arms 136, contact the inner surface of jet pump 62 to inspect weld joints 80. (*See*, Paillaman '905: par. [0032]; FIGs. 5, 6).

Thus, probe arms 136 do not, in any way, guide probe assembly 130 (which the Examiner asserted as corresponding to the claimed “apparatus body” – rather, it is clear that they are merely used to position sensors 140 to view and inspect weld joints 80.

Regarding insertion subassembly 144, the Examiner asserted that insertion subassembly 144 is disposed at an end portion of probe assembly 130 and that it is configured to facilitate entry of insertion subassembly 144 into a tapered surface of the side opening 68 of the jet pump, and that insertion subassembly 144 is inserted into the side opening. (See, Office Action: page 4). Applicants disagree.

Paillaman ‘905 further discloses that insertion subassembly 144 couples to suction inlet 68 of jet pump 62. Insertion subassembly 144 is sized to receive tool head 120 and connected flexible drive cable 112 and guide tool head 120 into jet pump 62 through suction inlet 68. Insertion subassembly 144 includes an elongate tube portion 146, a location cone 148 attached to a first end 150 of tube portion 146, and an attachment clamp 152 attached to a second end 154 of tube portion 146. Attachment clamp 152 is configured to clamp to jet pump 62 at suction inlet 68. (See, Paillaman ‘905: par. [0031]; FIG. 4).

Paillaman ‘905 also discloses that insertion subassembly 144 is first installed on jet pump 62 by positioning tube portion in suction inlet and clamping insertion subassembly 144 into place. (See, Paillaman ‘905: par. [0035]). Probe assembly 130 is then positioned into place and tool head 130 is inserted into cone 148 and guided through the tube portion 146 and then into jet pump 62. (See, Paillaman ‘905: par. [0036]).

As such, it is clear that insertion subassembly 144 receives and guides the tool head into jet pump 62. However, in contrast to the Examiner’s assertions, there is no indication that insertion subassembly 144 of Paillaman ‘905 is “attached to the end portion” of probe assembly 130, as required by the claim language. If anything, by disclosing that the insertion subassembly 144 is first installed on jet pump 62 and then probe assembly 130 is positioned into place, Paillaman ‘905 teaches that insertion subassembly 144 is attached to jet pump 62 – not to probe assembly 130.

Along these lines, it is equally clear that because insertion subassembly 144 is coupled or clamped to jet pump 62, it is physically impossible for both probe assembly 130 and insertion subassembly 144 to be “*substantially inserted into the jet pump* to enable the tool to perform the operation,” as required by the claim language. Stated differently, although probe arms 136 are inserted into jet pump 63, Paillaman ‘905 specifically teaches that insertion subassembly 144 is clamped to jet pump 62 – thus, insertion subassembly 144 is incapable of being substantially inserted into jet pump 62.

With this said, Applicants point out that Paillaman ‘905 at least fails to suggest *a guide rod attached to an end portion of the apparatus body* and that *the apparatus body is lowered so that both, the apparatus body and guide rod are substantially inserted into the jet pump* to enable the tool to perform the operation, as required by claim 11.

Thus, for at least these reasons, Applicants submit that Paillaman ‘905 is incapable of suggesting each and every element of claim 11. As such, claim 11 is clearly patentable over the asserted references. In addition, because claims 13, 14, and 30 depend from claim 11, claims 13, 14, and 30 are patentable at least by virtue of dependency as well as for their additional recitations. Accordingly, the immediate withdrawal of the rejections of claims 11, 13-14, and 30 is respectfully requested.

Lastly, new claim 32 depends from claim 11 as is patentable by virtue of dependency as well as for its additional recitations. Namely, claim 32 further recites that the elongated tubular member *has a plurality of holes disposed along the tubular member* that enables the tool to perform the operation. Indeed, there is absolutely no disclosure or suggestion in Paillaman ‘905 of such a feature.

### III. Conclusion.

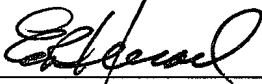
All matters having been addressed and in view of the foregoing, Applicants respectfully request the entry of this Amendment, the Examiner’s reconsideration of this application, and the immediate allowance of all pending claims.

Applicants' Representative remains ready to assist the Examiner in any way to facilitate and expedite the prosecution of this matter. If any point remains in issue which the Examiner feels may be best resolved through a personal or telephone interview, please contact the Undersigned at the telephone number listed below.

Please charge any fees associated with the submission of this paper to Deposit Account Number **03-3975**. The Commissioner for Patents is also authorized to credit any over payments to the above-referenced Deposit Account.

Respectfully Submitted,

**PILLSBURY WINTHROP  
SHAW PITTMAN LLP**

By:   
E. Rico HERNANDEZ  
Reg. No. 47641  
Tel. No. 703.770.7788  
Fax No. 703.770.7901

Date: August 7, 2008  
P.O. Box 10500  
McLean, VA 22102  
(703) 770-7900